

FIRST RECORD OF THE LARGE-TOOTH COOKIE-CUTTER SHARK *ISISTIUS PLUTODUS* FROM AUSTRALIAN WATERS. *Memoirs of the Queensland Museum* 46(2): 442, 2001:- The largetooth cookiecutter shark *Isistius plutodus* Garrick & Springer (1964), is an epipelagic and possibly bathypelagic shark known only from the Gulf of Mexico, off Alabama, USA and the western North Pacific, off Okinawa, Japan (Compagno, 1984).

Isistius contains *I. plutodus* and *I. brasiliensis* (Quoy & Gaimard, 1824). Both species have small cigar-shaped bodies (maximum size about 42cm TL and 50cm TL respectively), a conical snout and two low, spineless dorsal fins. The most obvious differences between the two species are the number of tooth rows in the lower jaw and the distance between the two dorsal fins. In *I. plutodus*, there are 19 tooth rows in the lower jaw and the inter-dorsal distance is subequal to the base of the first dorsal fin (D1). In *I. brasiliensis* there are 25-31 tooth rows, and the inter-dorsal distance is over twice the D1 base (Compagno, 1984). A distinctive dark collar-like marking is found around the branchial region of *I. brasiliensis*.

A 363mm ♀ *I. plutodus* was recently identified in the Ichthyology Collection of the Australian Museum (AMS I.28924-001). The specimen was collected by the *FT Teresa* in 1988 off Newcastle, New South Wales (approximately 33°S 152°E). Full collection details are not available, but discussions with K. Bollinger, the vessel owner, indicate that the shark was probably caught at night as prawn bycatch in an otter trawl at a depth of about 100m.

The specimen has 19 tooth rows in the lower jaw and lacks a clearly defined collar around the branchial region. The snout is very short (14.2mm) and the eyes are anteriorly placed. Compagno (1984) suggested that the position of the largetooth cookiecutter's eyes allows for binocular vision, which aids in precisely locating its victims.

The AMS specimen of *I. plutodus* was fixed in formalin in 1988 and has been preserved since in 70% ethanol. The pectoral, anal and caudal fins are damaged and the tissue around the snout is distorted. This has affected accurate

measurement of several of the diagnostic characters, however all characters are consistent with the descriptions in Garrick & Springer (1964) and Compagno (1984). The specimen has the following morphometrics (in mm): TL 363, HL 68.6, snout length 14.2, eye length (including posterior notch) 15.0, predorsal length 233, body depth 36.7, D1 base 17.5, D1 height 10.6, D2 base 18.2, D2 height 13.2, interdorsal space 22.5, D2 insertion to upper caudal origin 26.2.

This major range extension is a new record for Australia and the Southern Hemisphere. The continental shelf in the region of the collection locality is approximately 42km wide. The fish was captured approximately 24km landward of the shelf break (200m isobath). Species of *Isistius* are believed to move vertically in the water column from deeper waters. If this is the case then the current fish not only ascended from deep water but also traversed over 20km in shelf (< 200m) waters.

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References

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FIG. 1. *Isistius plutodus* (AMS I.28924-001).